## **Mythbusters: The Truth about Turfgrass**

## Myth: Lawn fertilizers contribute significantly to Chesapeake Bay pollution.

**Fact:** A National Science Foundation study conducted in Baltimore, MD, urban and suburban communities revealed that only 10% of nitrogen pollution reaching the Bay comes from urban and suburban areas, which includes streets, parking lots, roof tops, and lawns.<sup>1</sup> In addition, this research showed that turfgrass actually captures and retains much more nitrogen than previously understood. The largest concentration of nitrogen that contributes to nitrogen pollution in the Bay is found in the air (33%), with the next biggest contributor being nitrogen from municipal wastewater treatment facilities.<sup>2</sup> Research has shown that proper fertilization use on lawns, including the following of fertilizer bag instructions; using properly calibrated equipment; and applying fertilizer to lawn areas only, not sidewalks and streets, does not lead to fertilizer runoff into the Bay.<sup>3</sup>

## Myth: Doing nothing to my lawn is better for the Bay.

**Fact:** Like humans, turfgrasses need feeding to be vibrant, growing, and healthy. Research has shown that turfgrasses are often much better at filtering excess nutrients and sediment than agricultural crops, or even lawn weeds.<sup>4</sup> This is because healthy turfgrass has many miles of fibrous roots that hold soil and filter rainwater. Therefore, maintaining a healthy lawn by applying timely nutrients is environmentally beneficial and helpful to the Chesapeake Bay.

## Myth: Grasses native to the U.S. are better are for the environment and the Chesapeake Bay.

Fact: In other regions, research has demonstrated that turfgrasses are equal to native species in their ability to reduce nutrient runoff and leaching through the soil. However, there is still interest in developing native grasses for lawn use.<sup>5</sup> Within the Chesapeake Bay watershed, there are no native lawn grasses that are commercially available. Therefore, there is little research to document native turfgrass benefits to the Bay. One of the few native lawn grasses available in the U.S., buffalograss, is only suitable for use in semi-arid and arid regions, i.e., west of the Mississippi River.<sup>6</sup> Research is underway to explore the development of native grasses for lawns in the humid Mid-Atlantic states, but this is a long and complex process that has only just begun.<sup>7</sup> Future research may provide information to either confirm or debunk this myth.

- <sup>5</sup> J. Stier and W. Kussow, "UW-Madison Research Aims at Smart Legislation," *The Grass Roots* (November/December 2009): 5-8.
- J. E. Erickson et al, "Does a Mixed-Species Landscape Reduce Inorganic-Nitrogen Leaching Compared to a Conventional St. Augustinegrass Lawn?" *Crop Science* 48 (2008):1586-1594.
- <sup>6</sup> R. C. Shearman et al., "Buffalograss: A Tough Native Turfgrass" *USGA Turfgrass and Environmental Research Online* 5, Number 21, November 1, 2006. <a href="http://usgatero.msu.edu/v05/n21.pdf">http://usgatero.msu.edu/v05/n21.pdf</a>

<sup>&</sup>lt;sup>1</sup> Baltimore Ecosystem Study <a href="http://www.beslter.org/frame4-page">http://www.beslter.org/frame4-page</a> 3f 05.html. P. Groffman et al., "Nitrogen fluxes and retention in urban watershed ecosystems," *Ecosystems* 7:393-403.

<sup>&</sup>lt;sup>2</sup> Chesapeake Bay Foundation: <a href="http://cbf.org/how-we-save-the-bay/issues/agriculture/nitrogen-phosphorus">http://cbf.org/how-we-save-the-bay/issues/agriculture/nitrogen-phosphorus</a>.

<sup>&</sup>lt;sup>3</sup> Anne R. Leslie, ed., *Handbook of Integrated Pest Management for Turf and Ornamentals* (CRC Press, June 1994).

<sup>&</sup>lt;sup>4</sup> Bierman, P et al. Journal of Environmental Quality 2010 39:282-292 (2009); Gross, C. M. et al. Runoff and Sediment Losses from Tall Fescue under Simulated Rainfall. Journal of Environmental Quality 20:604-6-7 (1991); Gross, C. M. et al. Nutrient and Sediment Losses from Turfgrass. Journal of Environmental Quality 19:663-668 (1990).

<sup>&</sup>lt;sup>7</sup> S.E. Warnke, "There's a New Native Low-Input Turfgrass Option in Town," *Turfgrass Trends* (May 2010). <a href="http://archive.lib.msu.edu/tic/golfd/article/2010may49.pdf">http://archive.lib.msu.edu/tic/golfd/article/2010may49.pdf</a>